

Copy Art. 19

AMENDED CLAIMS [received by the International Bureau on 10 November 2004 (10.11.04) original claims 1, 32,40 and 52 amended WHAT IS CLAIMED IS: 1. An isolated nucleic acid which encodes a cancer cell antigen and which comprises a sequence selected from the group consisting of : (a) the nucleotide sequence of any one of SEQ ID NOS : 1,2, 6, 9, 11, 14, 16, 20, 21, 23, 28, 37, 38, 39, 41, 43, and 44 ; (b) a nucleotide sequence encoding SEQ ID NO : 22, 32, 40, or 42; and (c) a nucleotide sequence complementary to (a) or (b).

2. The isolated nucleic acid of claim 1, wherein the cancer cell antigen comprises one or more MHC class I binding epitopes.

3. The isolated nucleic acid of claim 1, wherein the cancer cell antigen has a capability to elicit cytotoxic T cell lysis, 4. An isolated nucleic acid comprising a nucleic acid sequence that is at least 70% identical to the sequence of the nucleic acid of claim 1, and which encodes a cancer cell antigen comprising one or more class I binding epitopes.

5. The isolated nucleic acid of claim 4, wherein the nucleic acid sequence is at least 90% identical to the sequence of the nucleic acid of claim 1.

6-The isolated nucleic acid of claim 4, wherein the cancer cell antigen has a capability to elicit cytotoxic T cell lysis.

7. An isolated nucleic acid encoding a cancer antigen comprising one or more MHC class I binding epitopes, which nucleic acid hybridizes to the complement of the nucleic acid of claim 1 under the following stringent conditions: a final wash in 0.1X SSC at 65°.

8. The isolated nucleic acid of claim 7, wherein the cancer cell antigen has a capability to elicit cytotoxic T cell lysis.

28. The vaccine of claim 27, wherein the one or more MHC-binding epitopes are selected from the group consisting of an HLA-A0201 binding epitope, an HLA-24 binding epitope, an HLA-A3 binding epitope, an HLA-AU binding epitope, an HLA-B7 binding epitope, and combinations thereof.

29. The vaccine of claim 28, wherein the antigen comprises SEQ ID NO:22, or MHC class I binding fragment thereof.

30. The vaccine of claim 26, further comprising a capability to elicit a humoral or cytotoxic T lymphocyte response to the antigen- 31. A method for treating cancer, which comprises administering to a subject in need thereof a vaccine comprising a therapeutically effective amount of a vaccine of claim 26.

32. The method of claim 31, wherein the vaccine is administered in combination with a chemotherapeutic agent.

33. A monoclonal antibody or antigen binding fragment thereof, which specifically binds to the antigen of claim 21.

34. The monoclonal antibody of claim 33 which is a chimeric, human, or humanized antibody.
35. diagnostic reagent comprising an antibody or antigen binding fragment of claim 33 and a detectable label, 36. A therapeutic reagent comprising an antibody or antigen binding fragment of claim 33 and an effector moiety bound.
37. The therapeutic reagent of claim 36, wherein the effector moiety is a radionuclide, an enzyme, a cytotoxin, a growth factor, or a drug.
38. A method for treating cancer, which comprises administering to a subject in need thereof a therapeutically effective amount of an antibody or antigen binding fragment of claim 33.
39. The method of claim 38, wherein the antibody is administered in combination with a chemotherapeutic agent.
40. A method for treating cancer, which comprises administering to a subject in need thereof a therapeutically effective amount of a therapeutic reagent of claim 36.
41. The method of claim 40, wherein the therapeutic reagent is administered in combination with a chemotherapeutic agent.
42. A monoclonal antibody or antigen binding fragment thereof that specifically binds An-2 antigen- 43. The monoclonal antibody of claim 42 which is a chimeric, human, or humanized antibody.
44. A diagnostic reagent comprising an antibody or antigen binding fragment of claim 42 and a detectable label.
45. A therapeutic reagent comprising the monoclonal antibody or antigen binding fragment of claim 42 and an effector moiety.
46. The therapeutic reagent of claim 45, wherein the effector moiety is a radionuclide, an enzyme, a cytotoxin, a growth factor, or a drug.
47. The therapeutic reagent of claim 46, wherein the radionuclide is ⁹⁰Y or ¹³¹I.
48. The monoclonal antibody or antigen binding fragment of claim 42, which does not specifically bind to Agnat-1, Anar-3 or Anal-4.
49. A method of treating cancer comprising administering to a subject in need thereof a therapeutically effective amount of the antibody or antigen binding fragment of claim 42.
50. The method of claim 49, wherein the antibody is administered in combination with a chemotherapeutic agent.
51. A method of treating cancer comprising administering to a subject in need thereof a therapeutically effective amount of the therapeutic reagent of claim 45.

52. The method of claim 51, wherein the therapeutic agent is administered in combination with a chemoherapeutic agent-
